

## WHAT IS CLAIMED IS:

1/ An osteosynthesis and compression screw for coaptation of small bone fragments, the screw being formed by a single longitudinal body having a longitudinal axis, and comprising:

- a proximal portion formed by a screw head provided with an outside thread, said proximal portion being of diameter greater than the diameter of the remainder of the screw;

- an intermediate portion having no thread; and
- a distal portion provided with an outside thread;

wherein:

- each of the screw head and the distal portion includes at least one groove, firstly extending over the entire axial length of its thread, and secondly being formed through each thread in such a manner to form tapping means; and

- the terminal zone of the distal portion is provided with preparation means for preparing a housing in the bone fragments for receiving the intermediate and distal portions of the screw.

2/ A screw according to claim 1, wherein said at least one groove is helical.

3/ A screw according to claim 2, wherein the obliqueness of each helical groove lies in the range  $20^{\circ}$  to  $40^{\circ}$ , and is preferably about  $25^{\circ}$ .

4/ A screw according to claim 1, wherein the depth of the grooves is constant.

5/ A screw according to claim 1, wherein the depth of the grooves varies regularly from the start towards the finish of each groove.

6/ A screw according to claim 5, wherein the depth of each groove increases going towards the terminal zone of the screw.

5 7/ A screw according to claim 6, wherein the final portion of each groove penetrates into the thickness of the body of the screw.

8/ A screw according to claim 1, wherein the preparation  
10 means are formed by a tooth extending substantially axially.

9/ A screw according to claim 1, having three grooves regularly angularly spaced apart around the longitudinal  
15 axis, and formed in the proximal and distal portions.

10/ A screw according to claim 1, the screw being provided with a central longitudinal bore to form a hollow screw.

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11/ A screw according to claim 9, the screw being provided with a central longitudinal bore to form a hollow screw, and wherein each junction between the grooves and the central bore includes a tooth forming the  
25 preparation means.